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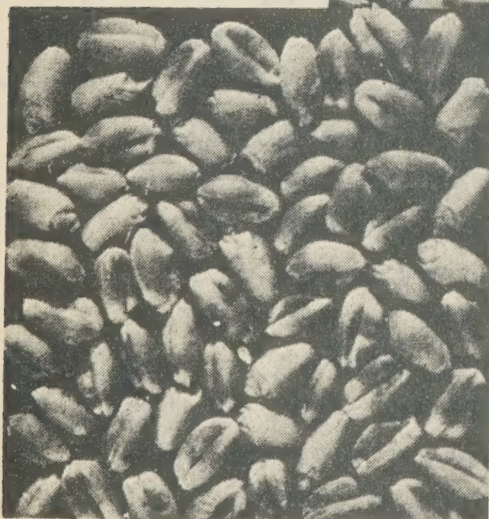
BARBERRY ERADICATION

IN

MISSOURI

19
En 8628

*This is
what black
stem rust
does to
wheat.*



*Plump,
healthy
wheat ker-
nels from
non-rusted
plants.*

WHAT WILL BARBERRY ERADICATION ACCOMPLISH

The eradication of barberry bushes eliminates the spring home of the stem-rust fungus, thus reducing the number of local rust outbreaks which often coalesce to form widespread epidemics. To insure desired results, complete eradication of all susceptible barberries is necessary, as a single bush may be responsible for a stem-rust epidemic extending over an area of several square miles, or, in some instances, several counties.

To control stem rust in the northern part of the United States:

- (1) All rust-spreading species of barberry should be destroyed.
- (2) Rust-resistant varieties of grain should be selected for seed.
- (3) Spring grains should be planted early on well-prepared seedbeds.

In many European countries, including Denmark, Germany, England, and France, the amount of damage caused by stem rust has been materially reduced by destroying common barberry bushes.

UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Entomology and Plant Quarantine
Cooperating with
State Agricultural and Other Agencies
In The Eradication of The Common Barberry

Barberry Eradication Office
Box 838
Jefferson City, Missouri

Dear Sir:

Many farmers in northern Missouri and adjoining States are protecting their small grain crops (oats, wheat, barley, and rye) from the damaging effects of stem rust by helping to eradicate common barberry bushes.

This circular contains a brief discussion of the stem-rust disease. Learn what it is, how it injures the grain crops, and what can be done to help prevent it.

Do not destroy bushes that you think are rust-spreading barberry until you send a twig to the above address to be identified. Only certain kinds of barberry harbor rust.

Very truly yours,

George M. Frandsen
George M. Frandsen
Leader in Charge

RECEIVED
JUL 23 1937
BUREAU OF

PROTECT MISSOURI GRAIN CROPS FROM STEM RUST

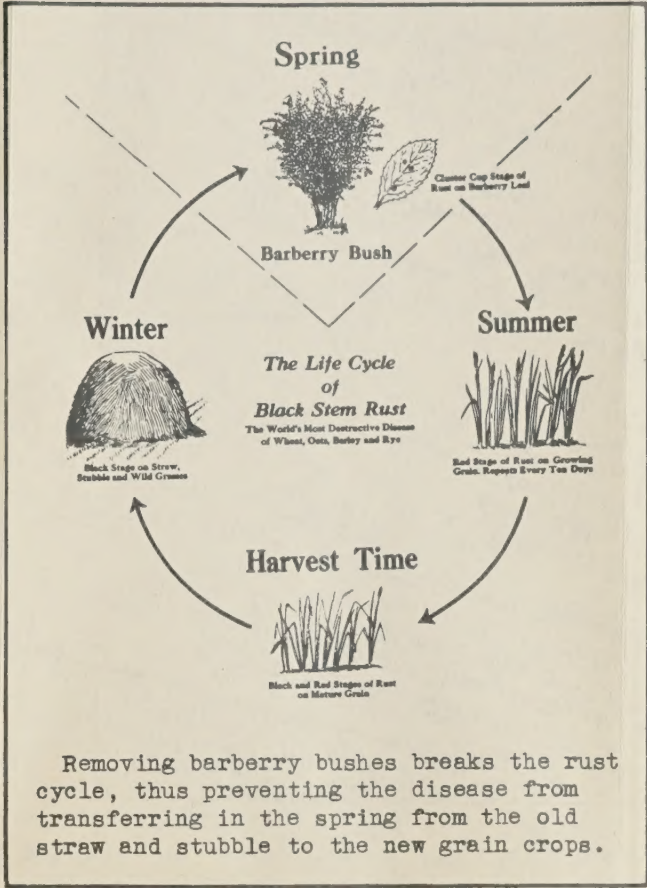
STEM RUST CAUSED BY PARASITIC PLANT

COMMON BARBERRY IS SPRING HOME FOR RUST FUNGUS

WARM DAMP WEATHER FAVORS RUST

Stem rust is a disease of wheat, oats, barley, rye, and many native grasses that is caused by a tiny parasitic plant called a fungus. The rust fungus is peculiar in that it lives during the spring on the leaves of the common barberry and during the remainder of the year on the leaves and stems of grains and grasses. Rust reproduces by means of spores that germinate and grow in a manner similar to that of seeds of higher plants.

As the grain crops ripen, the rust fungus also prepares for the winter. Tiny dark brown or black spores remain alive during the winter on the old straw, stubble, and wild grasses. In the spring they germinate and in a few hours produce smaller spores, which are discharged into the surrounding air. These tiny spores can attack only the leaves and tender growing shoots of certain kinds of barberry bushes. On the barberry another crop of



spores is produced, which in turn infect the growing grain plants, producing the red or summer stage of the fungus. Thus the diseased leaves of barberry become the source of rust infection to the new grain crops.

The rapidity with which rust spreads depends largely upon weather conditions. Just as grain plants must have moisture and favorable temperature for normal growth, so also must rust plants have the right kind of weather. Rust grows and spreads rapidly on warm, damp days.

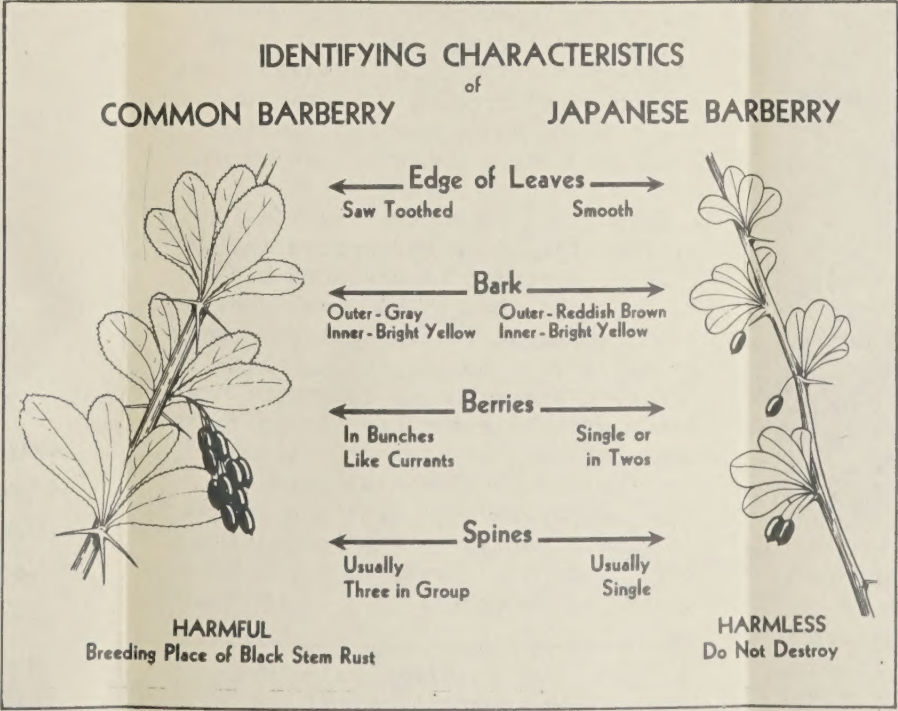
A field of grain attacked by stem rust about the time it is heading may be completely destroyed within a brief period of 2 to 3 weeks. More often, of course, the injury is less severe, causing reduced yields of light-weight, poor-quality grain. Preventing stem rust helps to lower the cost of production by stabilizing yields per acre and quality of the harvested grains.

LEARN TO KNOW THE RUST-SPREADING BARBERRY

RUST-SPREADING BARBERRY EASILY RECOGNIZED

A practical means of reducing the amount of loss caused by stem rust in the northern part of the United States is to eradicate all species of barberry that serve as the spring home for the fungus.

The common or rust-spreading barberry is a bush or shrub that in general growth habit somewhat resembles a lilac or honeysuckle. It may be found growing in lawns, gardens, orchards, and wood-lots, or along the banks of streams and rivers. Often extensive uncultivated areas become infested with barberry as a result of birds scattering seed from a few bushes planted for ornamental purposes. By examining the leaves, thorns, berries, and roots, barberry bushes may be easily distinguished from other shrubs (see diagram).



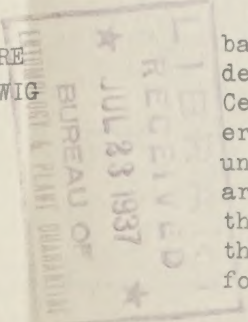
JAPANESE BARBERRY HARMLESS

The Japanese barberry so commonly grown as a decorative shrub in lawns and gardens is not attacked by stem rust and should not be destroyed. The leaves of this species have smooth edges and may be green or purple in color. The bark is reddish brown and the berries, bright red when ripe, are usually produced singly or not more than two or three in a place. The thorns also differ from those of the common barberry. They usually appear one in a place, or in pairs.

DO NOT DESTROY BUSHES THAT YOU THINK ARE COMMON BARBERRY UNTIL YOU HAVE SENT A TWIG

To be identified by

THE BARBERRY ERADICATION OFFICE
BOX 338
JEFFERSON CITY



More than 22 million barberry bushes have been destroyed in the North Central States since the eradication program was undertaken in 1918. There are many harmless bushes that are more desirable than the common barberry for landscaping purposes.

TREATING A COMMON BARBERRY BUSH WITH SALT



It is difficult to kill a barberry by digging or pulling because sprouts often develop from root fragments left in the ground. When properly treated with common crushed rock salt, barberry bushes die quickly and the danger of sprouting is eliminated.

Twelve to fifteen pounds of salt applied at the roots of an average-sized bush has proved sufficient to kill it.

MISSOURI BEGINS BARBERRY ERADICATION

The first legislation in the United States requiring the eradication of rust-spreading barberry bushes was enacted by the Colonists in the New England States in 1726. It was not until 1918, however, that an organized eradication program was undertaken in the important grain-producing areas of the country.

Since 1933, when the eradication of rust-spreading barberries was first undertaken in northern Missouri, more than 15,000 bushes have been destroyed in 31 counties. Many of these were found growing wild in timbered areas and on rough pasture lands along streams and rivers where seed had been scattered by birds. Had these bushes been allowed to continue spreading, both the amount of damage caused by rust and the cost of control measures would have steadily increased.

Barberry eradication in Missouri is administered by the Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, in cooperation with the Missouri State Department of Agriculture, the Department of Botany of the University of Missouri, and the Rust Prevention Association, Minneapolis, Minnesota.

